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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,355

04/28/2006

Hiroyuki Ikeuchi

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1609 7590 12/22/2008

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EXAMINER

SASTRI, SATYA B

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/577,355	<b>Applicant(s)</b> IKEUCHI ET AL.	
	<b>Examiner</b> SATYA B. SASTRI	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/21/07, 7/28/06</u> .                                       | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 1796

### **DETAILED ACTION**

1. This office action is in response to application filed on 4/28/06. Claims 1-22 are pending in the application.

#### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on July 11, 2003. It is noted, however, that applicant has not filed a certified copy of the JP2003-377898 application as required by 35 U.S.C. 119(b).

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3-5 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The inclusion in claims 1, 3-5 and 18 of a term within parentheses renders the claims indefinite because it is unclear whether the included term is part of the claimed invention.

Appropriate correction required.

Art Unit: 1796

Specifically, it is unclear if limitation such as “(but not including 850  $\mu\text{m}$ )” in claims 1, 3-5 and 18 and the expression in the last line of claim 4 are all part of the claim or not.

***Claim Rejections - 35 USC § 102 and 103***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 8, 9, 11, 17-19, 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Wada et al. (US 6127454).

Wada et al. disclose water-absorbing agent comprising a crosslinked hydrophilic polymers based on polyacrylic acid salts (col. 5, lines 10-25, col. 6, lines 1-24). Further, the average particle size of the resin ranges from 200 to 600  $\mu\text{m}$  (col. 6, lines 54-61). The surface crosslinking may be accomplished by polyols, and disclosed polyols include polyglycerol, pentaerythritol, sorbitol etc. which have 4 or more hydroxyl groups (col. 8-9, bridging

Art Unit: 1796

paragraph). Furthermore, polyvalent metal compounds such as aluminum and zirconium may also be used for surface crosslinking (col. 9, lines 25-31). The surface crosslinking agents may be used in amounts of 0.001 to 10 parts by wt. of solid content of the resin (col. 9, lines 40-45). The disclosed crosslinking agents may be used alone or in combination of two or more thereof. The surface crosslinking may be carried out using the two crosslinking agents separately in two or more steps (col. 9, lines 32-40). Additionally, the water absorbent resins have a water absorption capacity not less than 20 g/g under pressure (col. 13, lines 27-55, col.14, lines 5-17).

The water absorbing resin particle diameter is adjusted to substantially fall within 106  $\mu\text{m}$  to 500  $\mu\text{m}$ , i.e. particles within the range 106  $\mu\text{m}$  to 500  $\mu\text{m}$  comprise 90 wt.% or preferably, 95 wt.% of the water absorbent resin (col. 11, lines 1-15).

Thus, presently cited claims are anticipated by the prior art.

8. Claims 4-7, 10, 12, 13, 14, 15, 16, 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wada et al. (US 6127454).

The discussion with regard to Wada et al. above in paragraph 7 is incorporated herein by reference. Given that the compositional requirements and the physical characteristics of the water absorbent resin are met, it is the examiner's position that the presently recited properties are inherent to the composition. Case law holds that a material and its properties are inseparable. *In re Spada*, 911 F.2d 705,709, 15 USPQ2d 1655, 1658 (Fed. Cir. '1990).

In light of above, the presently cited claims are anticipated by the prior art.

In the alternative, the presently claimed properties would obviously have been present once the Wada et al. product is provided, absent evidence to the contrary.

Art Unit: 1796

9. Claims 1-20, 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP2002-539281A.

At the outset, it is noted that JP2002-539281A is used for date purposes while US 6,605,673 to Mertens et al. is used as the English equivalent in the body of this rejection.

Mertens et al. disclose powdered water absorbent polymer product constituted of 55-99% by wt. of polymerized acid group containing monomers and 0.1-5% by wt. of polymerized crosslinking monomers, 0.01-5% by wt. of at least one polyol as surface crosslinking agent and 0.001 to 1-1.0% by wt. cation containing surface crosslinking agent (col. 3, lines 30-54). Further, the disclosed polyols include pentaerythritol and sugar alcohols such as sorbitol (col. 4, lines 26-31) and the disclosed cation containing surface crosslinking agent include aluminum salts, zirconium salts and other transition metal salts (col. 4, lines 54-64). The resin and the crosslinking agents are mixed together prior to heat treatment (col. 7, lines 19-53). The particle size of the resin preferably ranges from 150 to 850  $\mu\text{m}$  (col. 6, lines 47-49). Furthermore, the retention value and SFC and values are within the presently claimed range (col. 3, lines 10-22, col. 10, lines 10-15).

While the prior art does not explicitly disclose at least 90% of the particle size ranges between 150-850  $\mu\text{m}$ , it is the examiner's position that the prior art resins inherently satisfy the requirement given the teaching that the dried resins are milled and subsequently screened to achieve the desired particle range (col. 10, lines 1-9), absent evidence to the contrary. Further, given that the compositional requirements and physical features of the resin particles are met, the presently claimed properties must be inherent to the water absorbent resin.

Art Unit: 1796

In light of above the presently cited claims are anticipated by the prior art. In the alternative, it would have been obvious to one of ordinary skill in the art that the properties would necessarily be present once the prior art product is provided.

With regard to claims 2 and 3, it is noted that aluminum sulphate and hydrates are particularly preferred in the compositions (col. 4, lines 55-60).

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wada et al. (US 6127454) or JP2002-539281A.

The discussions with regard to Wada et al. and Mertens et al. above in paragraphs 7 and 9 are incorporated herein by reference.

The prior art is silent to a process wherein heat treating of the resin results in 10-90% of the polyol remaining unreacted.

The cure conditions, i.e. time and temperature, depend the reactivities of the surface crosslinking agents used (col. 7, lines 40-54). Thus, it would have been within the level of ordinary skill in the art to optimize the cure conditions and thereby arrive at the presently cited claim, absent evidence of unexpected results.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112. The examiner can be reached on M-T-T-F, 8AM-5PM.

Art Unit: 1796

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*/Satya B Sastri/*

*Examiner, Art Unit 1796*